DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-022100
Date Inspected: 21-Mar-2011

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 700
OSM Departure Time: 1530
Location: Job Site

CWI Name:	See Items Observed		**CWI Present:**	☑ Yes	☐ No
Inspected CWI report:	☐ Yes	☑ No ☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No ☐ N/A
Electrode to specification:	☑ Yes	☐ No ☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No ☐ N/A
Qualified Welders:	☑ Yes	☐ No ☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No ☐ N/A
Approved Drawings:	☑ Yes	☐ No ☐ N/A	**Approved WPS:**	☑ Yes	☐ No ☐ N/A
			Delayed / Cancelled:	☐ Yes	☑ No ☐ N/A

Bridge No: 34-0006
Component: Orthotropic Box Girders

Summary of Items Observed:

At the start of the shift the Quality Assurance Inspector (QAI) traveled to the project site and observed the following work performed by American Bridge/Fluor Enterprises (AB/F) personnel at the locations noted below:

A). Longitudinal "A" Deck Stiffeners
B). Field Splice W8/W9
C). QC Inspection Request

The QA Inspector observed the onsite inspection performed by the contractor's QC Inspection personnel. The inspection was performed on various Complete Joint Penetration (CJP) groove welds on the west Orthotropic Box Girders. The welding was performed utilizing the Shielded Metal Arc Welding (SMAW) process as per the Welding Procedure Specification (WPS)and was also used by the QC Inspectors to monitor the welding operation and to verify the welding parameters.

A). Longitudinal "A" Deck Stiffeners

The QA Inspector observed the CJP welding of the longitudinal stiffeners located at the field splices W4/W5 and W6/W7 identified as WN: 4W-5W-A-LS6 and WN: 6W-7W-A-LS2. The welding was performed by the welders Xiao Jin Wan ID-9677 and Jin Pei Wang ID-7299. The CJP welding of the longitudinal stiffener plates was not completed during this shift.

B). Field Splice W8/W9

The QA Inspector observed the welders Jorge Lopez ID-6149 and Fred Kaddu ID-2188 perform the repair welding of the bottom plate and the edge plate field splices identified as 8W-9W-D1 and E2. The excavations were observed and verified by the QAI as follows; Y=145 mm, L=330 mm, d=15 mm and Y=55 mm, L=100 mm and d=12 mm. The excavation and welding was not completed during this shift.

C). QC Inspection Request

At the request of the Quality Control lead inspector, Bonifacio Daquinag Jr., the QAI randomly verified the QC visual inspection of the CJP welding identified as WN: 4E-PP40-E4, W1, W2, W3, W4 and WN: 4W-5W-A-LS1 through LS6. The QAI verification was performed to verify that the welding and the visual weld inspection performed by the QC inspector meet the requirements of the contract documents. At the conclusion of the QAI verification it appeared that the welds and the QC inspection complies with the contract documents.

Later in the shift, the QAI performed a random Ultrasonic Verification (UT) and Magnetic Particle Test, (MPT) test of the above mentioned welds. A total area of approximately 10% was ultrasonically tested to verify the weld and testing by QC meet the requirements of the contract documents. At the conclusion of the testing a UT report, TL6027 and a MT report, TL-6028 was generated on this date.

QA Summary

The welding was performed in the flat (1G) and vertical (3G) position utilizing low hydrogen electrodes. The welding parameters were verified and recorded by the QC inspector and appeared to comply with the WPS's identified as ABF-WPS-D15-1012-3, Rev. 0 and ABF-WPS-D15-1001 Repair, Rev. 0. The welders utilized a slag hammer and a wire wheel attached to a 4" high cycle grinder to remove slag after the deposit of each weld pass. The 3.2 mm electrodes were stored in electrically heated, thermostatically controlled oven after removal from the sealed containers. The exposure limits of the electrodes identified as E7018-H4R and E9018-H4R appeared to comply with the minimum storage oven temperature of 120 degrees Celsius as per the contract documents. The WPS's was also utilized by the QC inspector's, Gary Ehrsom and Jesse Cayabyab, as a reference to monitor the welding operation, verify the welding parameters and verify the minimum preheat and the interpass temperatures. The welding parameters and surface temperatures were verified by the QC inspector's utilizing a Fluke 337 clamp meter for the electrical welding parameters and Tempil Heat Indicators for verifying the preheat and interpass temperatures. At the time of the observation no issues were noted by the QAI.

The digital photographs on page 3 of this report illustrate some of the work observed during this scheduled shift.

WELDING INSPECTION REPORT

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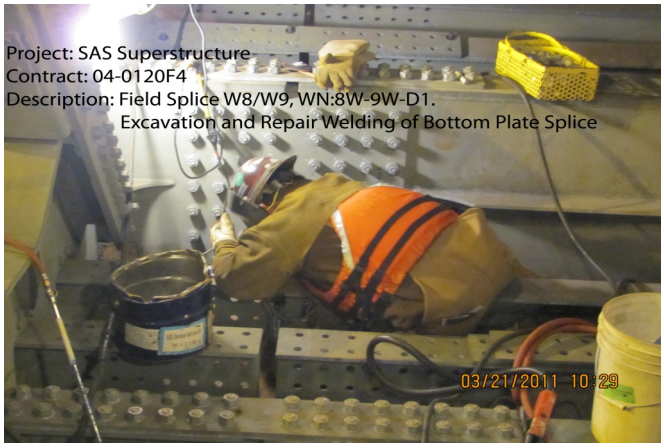

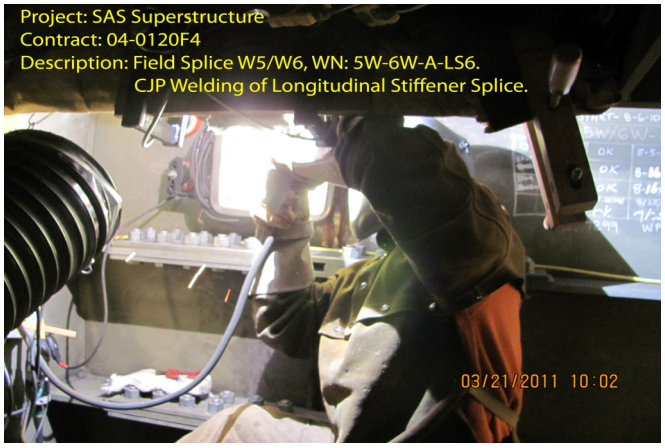

Summary of Conversations:

There were general conversations with Quality Control Lead Inspector, Bonifacio Daquinag, Jr., at the start of the shift regarding the location of American Bridge/Fluor welding, inspection and N.D.E. testing personnel scheduled for this shift.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy (510) 385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Reyes,Danny	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer